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(19) **United States**(12) **Patent Application Publication****Luo et al.**(10) **Pub. No.: US 2021/0269601 A1**(43) **Pub. Date: Sep. 2, 2021**(54) **FUNCTIONAL, SEGREGATED, CHARGED
TELODENDRIMERS AND NANOCARRIERS
AND METHODS OF MAKING AND USING
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Shi, Jamesville, NY (US)**(21) Appl. No.: **17/189,868**(22) Filed: **Mar. 2, 2021****Related U.S. Application Data**(63) Continuation of application No. 15/759,665, filed on
Mar. 13, 2018, now Pat. No. 10,947,350, filed as
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13, 2015.**Publication Classification**(51) **Int. Cl.****C08G 83/00** (2006.01)**A61K 47/60** (2006.01)**A61P 37/08** (2006.01)**A61K 9/107** (2006.01)**A61K 9/51** (2006.01)**C08G 65/329** (2006.01)(52) **U.S. Cl.****CPC** **C08G 83/002** (2013.01); **A61K 47/60**
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(57)

ABSTRACT

Provided are multiply functional charged telodendrimers. The telodendrimers can be used for protein encapsulation and delivery. The charged telodendrimers may have one or more crosslinking groups (e.g., boronic acid/catechol reversible crosslinking groups). The telodendrimers can aggregate to form nanoparticles. Cargo such as combinations of proteins and other materials may be sequestered in the core of the nanoparticles via non-covalent or covalent interactions with the telodendrimers. Such nanoparticles may be used in protein delivery applications.

Specification includes a Sequence Listing.